

### **AMENDMENTS TO THE DRAWINGS**

The sheets of drawings attached in the Appendix include changes to Figs. 1 and 2. These sheets replace the original sheets filed with the application. The corrected Figs. 1 and 2 are being submitted to include the "Prior Art" legend as requested in the Office Action dated June 14, 2005.

In addition to the replacement sheets, annotated sheets showing the changes are also attached.

### **REMARKS**

In the Office Action dated June 14, 2005, claims 1-16 are pending with claims 1-16 being rejected. Claims 1 and 2 have been canceled without prejudice or disclaimer, claims 3-10 and 14 have been amended, and new claims 17-21 have been added. Reexamination and reconsideration of the claims as requested is respectfully requested.

Applicants are grateful for the Examiner's acknowledgement of the Information Disclosure Statement filed on March 19, 2002.

Applicants thank the Examiner for acknowledgement of the certified copy of the priority document filed on April 17, 2002.

### **Drawings**

Applicants note that the drawings were objected to because Figures 1 and 2 are not designated as *PRIOR ART*. Applicants have submitted replacement sheets with corrected Figures 1 and 2 to overcome this objection.

### **Rejections under 35 USC § 112**

In paragraph 4 on page 2 of the Office Action, claim 12 is rejected under 35 U.S.C. § 112 first paragraph because the specification, while being enabling for using a weighting factor  $\alpha$ , does not reasonably provide enablement for calculation of  $\alpha$  in respect to minimizing. The Applicants respectfully traverse this rejection.

Indeed, there is no explanation given in the specification for the formula in claim 12. However, one of ordinary skill in the art would know that the numerator is being minimized with respect to the variable, "m". There are only two variables, namely "m", the discrete spectral frequency, and "l", the discrete time. Because the weighting factor  $\alpha$  is dynamic, i.e. time-dependent, it would make no sense to minimize  $\alpha$  with respect to the time variable

"l"; doing so would result in a weighting factor that is frequency dependent. Therefore, the only logical variable over which the numerator can be minimized is the frequency variable "m":

In paragraph 6 on page 2 of the Office Action, claims 1-14 are rejected under 35 U.S.C. § 112 second paragraph as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention. The Applicants respectfully traverse this rejection, but have amended the application to overcome the objections. Claims 3-10 and 14 have been amended. It is believed that all claims comply with 35 U.S.C. § 112.

It should be noted that the amendments to the claims are solely to correct for severe translational problems that occurred when the application was translated from German to English.

Claim 1 is cancelled, and new claims 17-19 are added. Claims 18 and 19 correspond to claim 1 with the alternative language split into two claims, and are considered to be of identical scope to claim 1. No new matter is added.

Claim 2 is cancelled, and new claims 20-21 are added. Claim 21 is identical in scope to claim 2. No new matter is added. All of new claims 17-21 are worded in a style more compatible with conventional U.S. practice.

Claims 3-10 are amended only to correct deficiencies in antecedent basis. The scope of each claim is unaltered by the amendments. No new matter is added.

Claim 14 is amended to correct for an error in transcription that occurred when the application was translated from German to English. As originally filed in German, claim 14 shows a value of negative one-half, which is also supported in the German specification (page 13, following equation 13). When translated into English, the value was mistakenly given as positive one-half in claim 14. The support for negative one-half still exists in the English specification (page 12, following equation 13). Claim 14 is

currently amended to correct for this transcription error, and properly reinstates the value of negative one-half.

### **Rejections under 35 USC § 103**

In paragraph 8 on page 4 of the Office Action, claims 1-11 are rejected under 35 U.S.C. § 103(a) as being unpatentable over the Applicants' admitted prior in view of Deller, Proakis, and Hansen ("Deller"). The Applicants respectfully traverse this rejection, but have amended the application to overcome the objections. Independent claim 1 is cancelled, and new claim 17 is added. It is instructive to show that new independent claim 17 is not unpatentable over the cited references.

Claim 17 recites "determining dynamically a filter function in response to the dynamic signal component". The Applicants assert that this limitation is not taught or suggested by any of the references, taken alone or in combination.

The Office Action states that the Applicants' admitted prior art "discloses reducing random, continuous, non-stationary noise...". The Applicants respectfully disagrees, and asserts that the admitted prior art reduces only stationary noise, not non-stationary noise. This is stated clearly in the specification: "Calculation of the filter function is effected in that respect on the assumption that the noise signal is stationary." (page 1, second paragraph, last sentence).

The distinction between stationary and non-stationary is important. A stationary noise component does not vary significantly over time, and may be estimated or measured at one particular time, then used to filter the audio signal at a later time. For instance, the stationary noise component may be measured during a period of silence in an audio program, then used to determine a time-invariant filter that filters the audio afterwards. This time-invariant filter does not work for a non-stationary noise component, which itself varies over time.

Accordingly, the Applicants' admitted prior art does not teach or suggest either "determining dynamically a filter function in response to the dynamic signal component", or "limiting dynamically the filter function in response to the dynamic noise component".

Deller is directed toward filtering noisy speech, and implicitly assumes that the noise component is stationary, i.e., invariant over time. For instance, Deller discloses estimating the noise power spectrum during periods of silence (p. 520, after eq. 8.29). For the same reasons as above, the approach of Deller does not work for non-stationary noise.

Accordingly, Deller not teach or suggest either "determining dynamically a filter function in response to the dynamic signal component", or "limiting dynamically the filter function in response to the dynamic noise component".

Because neither the Applicants' admitted prior art nor Deller, taken alone or in combination, teach or suggest either "determining dynamically a filter function in response to the dynamic signal component", or "limiting dynamically the filter function in response to the dynamic noise component", not all the elements of independent claim 17 are taught or suggested by the references, and independent claim 17 is not unpatentable in view of the cited references.

Dependent claims 20 and 3-11, which are dependent from independent claim 17, were also rejected under 35 U.S.C. §103 as being unpatentable over the cited references. While Applicants do not acquiesce with the particular rejections to these dependent claims, it is believed that these rejections are moot in view of the remarks made in connection with independent claim 17. These dependent claims include all of the limitations of the base claim and any intervening claims, and recite additional features which further distinguish these claims from the cited references. Therefore, dependent claims 20 and 3-11 are also in condition for allowance.

### **CONCLUSION**

In view of the amendments and reasons provided above, it is believed that all pending claims are in condition for allowance. The amendments clarify the patentable invention without adding new subject matter. Applicants respectfully request favorable reconsideration and early allowance of all pending claims.

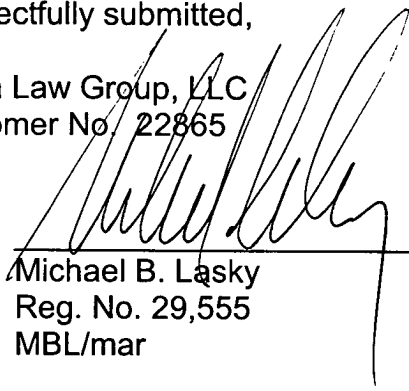
If a telephone conference would be helpful in resolving any issues concerning this communication, please contact Applicants' attorney of record, Michael B. Lasky at (952) 253-4106.

Respectfully submitted,

Altera Law Group, LLC  
Customer No. 22865

Date: October 13, 2005

By:



Michael B. Lasky  
Reg. No. 29,555  
MBL/mar

## **APPENDIX**



APPLICATION NO. 10/044,210  
AMENDMENT DATED OCTOBER 13, 2005  
REPLY TO OFFICE ACTION OF JUNE 14, 2005  
ANNOTATED SHEET SHOWING CHANGES

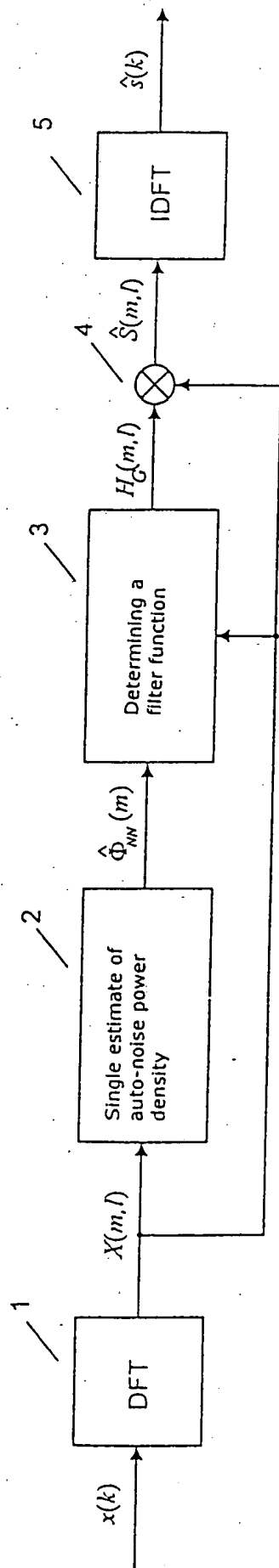


Fig. 1  
PRIOR ART





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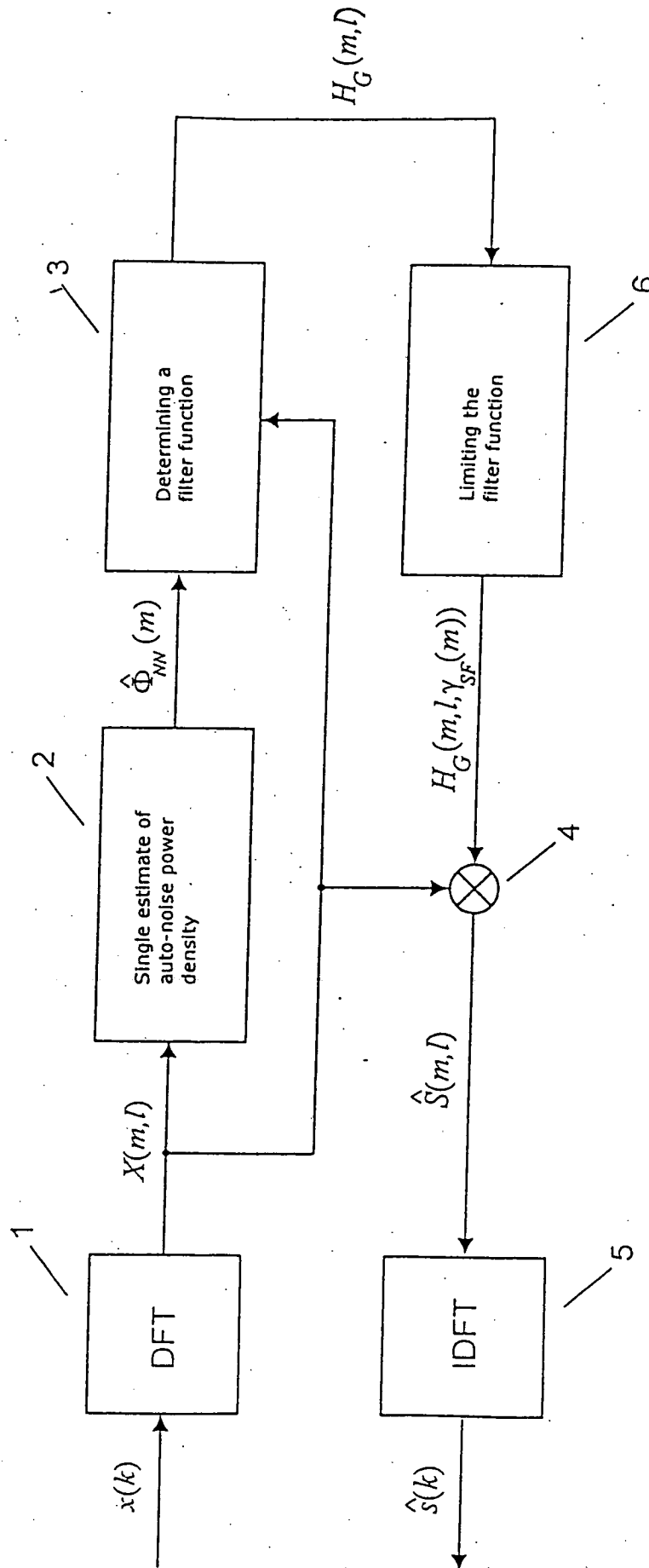


Fig. 2  
PRIOR ART